METHOD AND APPARATUS FOR MERGING VIRTUAL CONNECTIONS

Abstract of the Invention

A method and apparatus for merging a plurality of virtual connections to form a merged virtual connection is presented. As cells for each of the plurality of virtual connections are received, they are buffered into a corresponding plurality of cell buffers, where each virtual connection has a corresponding cell buffer. When enough cells to constitute a complete packet are buffered for a particular virtual connection in its corresponding cell buffer, the identity of that virtual connection is queued into a queue, which may take the form of a linked list. A plurality of linked lists may be included such that differentiation between various virtual connections based on class is possible, where the class division may be based on a number of different factors. Prioritization information for the merged virtual connection is then obtained, where in the case where a plurality of classes are supported, the prioritization information includes class prioritization information. A cell stream for the merged virtual circuit is then generated based on the prioritization information and the virtual connection identities currently stored in the queue structure. The cell stream is generated such that entire packets are included in the cell stream in a continuous manner and no intermingling of cells corresponding to different packets occurs.